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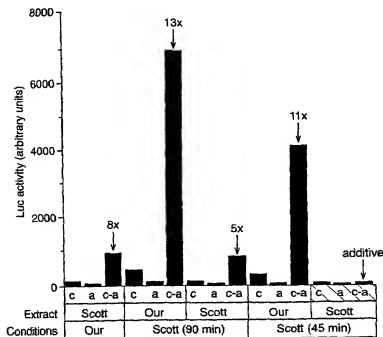
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(54) Title: IN VITRO TRANSLATION SYSTEM

Experiment E-872 Blow up (one set of data eliminated)

c = cap, a = poly(A), c-a = cap and poly(A)
Synergism = fold over the sum of c+a value

(57) Abstract: The invention relates to a cell-free translation system using cell extracts, that reproduces the synergism that occurs during translation *in vivo* between the *cap* and the *poly(A)* tail structures of an mRNA molecule. Using this system, the amount of encoded protein produced from translation of an mRNA molecule is greater than the total of (a) the amount of the encoded protein that is produced under the same conditions when the ribonucleic acid template has a 5' cap but no 3' poly A tail, plus (b) the amount of the encoded protein that is produced under the same conditions when the ribonucleic acid template has a 3' poly A tail but no 5' cap.

WO 00/50586 A3